In the Claims:

1.   A wide band signal coder comprising:

means for subdividing signals over a bandwidth into a lower subband and a higher
subband signals,

a downsampler for downsampling said lower subband signals,

a low band speech coder coupled to said downsampler for encoding said
downsampled lower subband signals, and

a highband coder for coding said higher subband signal without downsampling,
and

a combiner for combining said higher and lower subband signals.

2.   The coder of Claim 1, wherein said combiner includes a bandpass filter coupled to
said highband coder to bandpass said higher subband signal to complement the lower subband.

3.   The coder of Claim 1, wherein said combiner includes upsampling said encoded
lower subband signals.

4.   The coder of Claim 1, wherein said low band speech coder is a CELP coder.

5. · The coder of Claim 1, wherein said highband coder is an LPC coder.

6.   The coder of Claim 1, wherein said highband coder is random noise.

7.   The coder of Claim 1, wherein said highband coder is noise excited LPC.

8.   The coder of Claim 1, wherein said highband coder is gain-matched analysis by
synthesis.

9.   The coder of Claim 1, wherein said highband coder is multi-pulse coding.

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10.   A speech coding system comprising:

means for subdividing signals over a bandwidth into a lower subband and a higher subband,

5   a downsampler for downsampling said lower subband signals,

a low band speech coder coupled to said downsampler for encoding said downsampled lower subband signals,

a highband coder for coding said higher subband signal without downsampling;

a bandpass filter coupled to said highband coder to bandpass said higher subband

10   signal to complement the lower subband;

a first decoder for decoding said encoded lower subband signals;

means for upsampling and lowpass filtering said lower subband signals to the same rate as the higher band signals;

a second decoder for decoding said higher subband signals and bandpass filtering

15   said higher subband signals; and

and adder for summing said lower subband signals and said higher subband signals .

11.   The system of Claim 10, wherein said low band coder is a CELP coder.

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12.   The system of Claim 10, wherein said highband coder is random noise and said highband decoder includes a gain-scaled random noise generator.

13.   The system of Claim 10, wherein said highband coder is a noise excited LPC

25   coder and said decoder includes a gain-scaled random noise generator and the output is applied to an LPC synthesis filter.

14.   The system of Claim 10, wherein said high band coder includes a gain-matched by synthesis coder and the highband decoder includes a codebook with allowable excitation

30   vectors, a multiplier and an LPC filter.

15.   The system of Claim 10, wherein said coder is a multi-pulse coder and the decoder includes gain-scaling an approximation waveform that is gain-scaled and filtered by an LPC synthesis filter.

16.   A wideband speech decoder system comprising:

a first decoder for decoding encoded lower subband signals;

a second highband decoder for decoding higher subband signals at a higher sampling rate than said lower subband signals;

a converter for converting said lower subband signals to the same sampling rate as the higher band signals; and

an adder for summing said lower subband signals and said higher subband signals.

17.   The decoder system of Claim 16, wherein said second decoder includes a gain-scaled random noise generator.

18.   The decoder system of Claim 16, wherein said second decoder includes a gain-scaled random noise generator and the output applied to an LPC synthesis filter.

19.   The decoder system of Claim 16, wherein said second decoder includes a codebook with allowable excitation vectors, a multiplier and an LPC filter.

20.   The decoder system of Claim 16, wherein said second decoder includes a multipulse waveform that is gain-scaled and filtered by an LPC synthesis filter.